



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1  
5 POST OFFICE SQUARE, SUITE 100  
BOSTON, MA 02109-3912

**Certified Mail - Return Receipt Requested**

June 29, 2017

Mr. Craig Ziady  
Cummings Properties, LLC  
200 West Cummings Park  
Woburn, MA 01801

Dear Mr. Ziady:

This correspondence contains EPA New England - Region 1's Technical Review Comments on the April and May 2017 Submittals from Cummings Properties, LLC in Accordance with the U.S. EPA Region 1 Administrative Order on Consent (AOC) Dated April 13, 2017 (Docket No. RCRA-01-2017-0023). The submittals include:

- (1) The Vapor Intrusion Fact Sheet (undated) Submitted by email on May 19, 2017;
- (2) Written Proposal/Sampling and Analysis Plan (WP/SAP), dated April 27, 2017 and submitted on April 28, 2017;
- (3) Health and Safety Plan (HASP) dated April 4, 2017, submitted by email on April 24, 2017;
- (4) Quality Management Plan (QMP) dated April 4, 2017, submitted by email on April 24, 2017;
- (5) Sampling and Analysis Plan (SAP), dated April 4, 2017 (previous versions dated January 2017 and December 2016), submitted by email on April 24, 2017;
- (6) Quality Assurance Project Plan (QAPP) dated April 4, 2017 (previous version dated April 2012), submitted by email on April 24, 2017.

Comments on all of these documents are included as an attachment to this document.

The Vapor Intrusion Fact Sheet is approved in accordance with the AOC Section XV, paragraph 30, with the condition that modification to this document are made consistent with the comments contained in Attachment A to this correspondence. In accordance with the AOC, Section IX, paragraph 17.f., **the revised fact sheet must be distributed within 5 business days of receipt of these comments.**

In accordance with the AOC Section XV, paragraph 30, the WP/SAPP, QMP, SAP, and QAPP are approved with the condition that modification to these documents are made

consistent with the comments contained in Attachment A to this correspondence. Please correct the deficiencies and **resubmit the deliverables for approval within 14 days.**

Please do not hesitate to call with any questions. I can be reached at 617-918-1368 or [casey.carolyn@epa.gov](mailto:casey.carolyn@epa.gov). Please call to schedule any necessary conference calls in sufficient time to meet the submittal deadlines.

Sincerely

A handwritten signature in black ink, appearing to read 'Carolyn Casey', with a stylized flourish at the end.

Carolyn Casey  
RCRA Corrective Action Facility Manager

CC: A. Zucker, US EPA  
R. Knox, MassDEP  
J. Miano, MassDEP  
B. Hoskins, FSL  
G. Flaherty, Cummings Properties

## **ATTACHMENT A**

### **EPA New England - Region 1 Technical Review Comments on the April and May 2017 Submittals from Cummings Properties, LLC in Accordance with the U.S. EPA Region 1 Administrative Order on Consent (AOC) Dated April 13, 2017 Docket No. RCRA-01-2017-0023**

#### **Vapor Intrusion Fact Sheet Submitted by email on May 19, 2017**

#### **CURRENT STATUS - EPA AUDIT**

On page two, starting with the words "Numerous rounds" to the end of this section, the following text revision should be considered.

"Multiple rounds of indoor air sampling were conducted between September 2012 and August 2015 to assess indoor air quality in three buildings where children were present for school or day care. These indoor air samples were collected during summer and winter to evaluate the likely most conservative conditions. The data did indicate that further evaluation of the vapor intrusion pathway is needed. The potential for the existence of residual soil and/or groundwater contamination, which may impact vapor intrusion, will also be evaluated."

#### **UPCOMING INVESTIGATION**

Add a more specific date for the sampling including at least a month or two range for each event. It is suggested July/August 2017 and January/February 2018.

The last sentence to this section states "... a human health risk assessment will be completed at each building (Buildings 100, 500, and 600) to determine if vapor intrusion is occurring or if environmental remediation will be necessary."

Risk assessment will not determine if vapor intrusion is occurring. It will determine if there is an unacceptable risk. The evaluation of soil gas, groundwater, and indoor air sampling data and the conceptual site model will determine if vapor intrusion is occurring (e.g., typically greater soil gas concentrations than IDA, comparison to ambient air/background concentrations, identification of physical pathways, identification of sources, etc.).

#### **EPA CONTACT**

My phone number is incorrect. The correct number is 617-918-1368. After suite 100, add the mail code OSRR 07-3. Please verify the accuracy of the other contact information.



**Health and Safety Plan (HASP)**  
**Former United Shoe Machinery Division North Parcel**  
**181 Elliott Street**  
**Beverly, MA 01915**

**April 4, 2017**

*Prepared for:* Cummings Properties, LLC., 200 West Cummings Park Woburn, MA 01801

*Prepared by:* FSL Associates, Inc. 358 Chestnut Hill Avenue Boston, MA 02135

**Please note that the EPA does not approve HASPs. We have completed a review and have the following comment.**

It is suggested that reflective-safety-vests be added to the level D safety equipment for the work proposed in the parking lot.

**QUALITY MANAGEMENT PLAN**  
**Former United Shoe Machinery Division North Parcel**  
**181 Elliott Street**  
**Dated April 4, 2017**

*Prepared for:* Cummings Properties, LLC., 200 West Cummings Park Woburn, MA 01801

*Prepared by:* FSL Associates, Inc. 358 Chestnut Hill Avenue Boston, MA 02135

Form A-1 should have been submitted as a completed document. This document should have been completed during the planning and document preparation for this effort.

**Sampling and Analysis Plan, April 4, 2017 (previous versions dated January 2017 and December 2016) Elliot Street Landing Beverly MA  
prepared for Cummings Properties, LLC.**

This is the third revision of this document. Typically, and in accordance with QA/QC procedures, this is reflected on the cover page of the document and in the upper right corner of each page of the document. In addition, it is customary to share a version with track changes in order to expedite the review process.

**Section 1.3 Statement of Specific Problem, page 2**

This section should be revised as in other areas of the report (page 9, second to last paragraph) to reflect that "Soil gas and groundwater data will be evaluated in accordance with the MCP and the Mass DEP Vapor Intrusion Guidance policy WSC#-16-435."

**Section 3.0 Project Data Quality Objectives, page 6**

The bullets set out dates for sampling of groundwater and soil gas as one winter event and one in a different season. Section 8 sets out a different schedule. Please revise as appropriate. Note that April would not be considered a winter sampling event (or a most likely conservative scenario). Although the Reports are dated April 4, this SAP was only submitted on April 24 and the QAPP was received on April 28. There was insufficient EPA review time allotted in the schedule for winter or April 2017 sampling. A realistic schedule, reflected consistently throughout the plans, is needed.

Please also note that depending upon the depth to groundwater, soil gas collection may not be feasible during high groundwater elevation (very shallow groundwater has been noted on site). Further, the conceptual site model should explain why collection during high versus low groundwater table is relevant.

**4.0 SAMPLING AND SAMPLING RATIONALE**

Include a complete reference to where specific SOPs can be located.

**Section 4.1 Soil Vapor Sampling**

Regarding the following statement, which EPA previously requested be revised, the MADEP Vapor Intrusion Guidance policy WSC#-16-435, the third paragraph in Section 4.8.4 (New Buildings Constructed at a Disposal Site Where the Potential for the Vapor Intrusion Pathway Exists) states that "It is recommended that sampling of indoor air be conducted once construction of a new building has been completed but before the building is occupied." Again, please revise the following statement:



“Vapor intrusion would not be expected in a newly constructed building even if a VOC source were present underneath the building. Because of this, and because a VOC source underneath the building is not suspected, indoor air sampling will not be conducted. Air sampling will be limited to sub-slab soil gas samples collected underneath the building.”

#### **4.2.2.1 Drilling, Soil Sampling, and Logging, page 12**

It's not clear what the relevance of the ambient outdoor air temperature is to the number of samples selected for headspace screening. Please revise as appropriate.

#### **4.2.3 Groundwater Sampling, page 14**

This section states that “Evaluation of the groundwater conditions will be done only after the completion of the second sampling event.” Please note that the groundwater analytical results should be reviewed upon receipt to evaluate if there is any imminent and substantial endangerment.

##### **4.2.3.1 Water Level Measurements**

Please note that observation for NAPL should also be included.

#### **5.3 Field Screening, page 17**

The SAP should include a minimum temperature that soil samples should reach before headspace screening.

#### **6.1.1 Equipment Blanks**

One equipment blank should be collected for each piece/type of equipment decontaminated in the field. The number of samples collected is irrelevant.

#### **Miscellaneous Comments**

A GPS should be used to document sample locations.

**QUALITY ASSURANCE PROJECT PLAN**  
**Former United Shoe Machinery Division North Parcel**  
**Dated April 4, 2017**

*Prepared for:* Cummings Properties, LLC., 200 West Cummings Park Woburn, MA 01801

*Prepared by:* FSL Associates, Inc. 358 Chestnut Hill Avenue Boston, MA 02135

**General Comments**

The Quality Assurance Project Plan (QAPP) and flow chart should be revised to more clearly show the project organization and responsibilities as required by the AOC. This document does not list the project coordinator, Gregory Flaherty, identified in correspondence from Craig Ziady dated, April 24, 2017. Clarify the responsibilities of the project coordinator and include in any flow diagrams and signature pages.

What are the responsibilities of Fred Lebow, FSL Program Manager, and what is his specific function/responsibility for this project (not described in the QAPP on Form B: Project Organization and Responsibility)?

The role of EPA is oversight, which is not accurately represented in this flow diagram. Delete Carolyn Casey from the flow diagram as she is not directly part of the organizational structure involved in carrying out the activities in this project.

A QAPP, for a specific project, should have the version of the update in the upper right hand corner. It is also common practice to provide a redline strike out version showing all the changes since the last version to facilitate the review and minimize time spent reviewing updates.

**Specific Comments**

**Form C: Problem Definition**

On page 4, current uses of the Site should include day care and school facilities.

On page 7, the text should state "volatile organic and/or petroleum contaminants."

**Form D: Project Description**

Figures for all suites showing proposed sampling locations should be included here or include a complete reference to the document where they can be found.

On page 8, the list should reflect data through the 2015 sampling event. Please provide an updated list.

The last sentence on page 9 should be more specific/accurate with regard to "seasonal variation" by more appropriately stating "to evaluate what is expected to be worst case conditions (in winter) and during an elevated groundwater table event." Or refer to the comments on the Fact Sheet, above.



Groundwater sampling programs should be designed to evaluate seasonal fluctuations in VOC concentrations and groundwater elevations and may need to be conducted for greater than a year to establish long-term trends in the concentration of VOCs in groundwater and groundwater elevations to determining worst-case conditions for vapor intrusion.

In the first full paragraph on page 10, include a reference to a figure showing the actual sampling locations. Include the figure in this document or another appropriate document submitted for this investigation.

In the paragraph starting with “the first round of sampling,” include a reference to a figure, and/or include the appropriate figure showing the locations described.

For the above comments, ensure the figures provided of the sample locations clearly show the suite location and correct orientation within the Cummings Center complex.

Regarding the second full paragraph on page 11, note again that multiple lines of evidence make for the best determination when ruling out a vapor intrusion pathway.

### **Page 13**

The use of averaging samples collected over five years and in both the summer and winter months is not appropriate as applied. The data for petroleum and benzenes show significantly higher concentration in the winter months yet children in schools, and daycares for that matter, most likely have more of their exposure in seasons other than the summer. Indoor air contaminant concentration can have significant seasonal and temporal variability. Averaging in this manner will create unnecessary uncertainty.

At the bottom of page 13 it states that the use of maximum concentrations for EPCs also overestimates risk. Although 5 different sampling events were conducted over 3 years, only two included both soil gas and indoor sampling. Ideally, groundwater samples would also be collected and all 3 media used to determine if the vapor intrusion pathway exists.

In the last paragraph on page 13, note that it's not risk assessment that is used to determine if vapor intrusion is occurring, it's multiple lines evidence (e.g., evaluation/comparison of indoor air sample results, ambient air sample results, soil gas sampling results, and groundwater sampling results). Risk assessment is used to determine if there is an unacceptable risk.

At the top of page 14, regarding the amount of vapor intrusion occurring, this is irrelevant when considering total risk to receptors.

### **Interior Buildings DQO, page 15**

The interior buildings DQO, add “and petroleum compounds” to the first sentence.



This sentence is confusing. A suggested revision follows.

The interior buildings DQO is to determine whether volatile organic or petroleum compounds, which have been detected in indoor air and/or soil gas beneath buildings, are present at concentrations that would create an unacceptable risk to occupants of buildings where schools/day care facilities and residential properties are located.

### **PCB Investigation**

Soil test pits are not necessary if groundwater sampling is conducted. This plan should be site specific. Note groundwater sampling for PCBs should be for homologues or congeners, not arochlors.

Wipe samples should not be used in the PCB investigation. Please delete all such statements in this and any other reports submitted for this project. Samples should be collected in accordance with the SOP provided herein which does not include wipe samples. Wipe samples are not quantitative therefore are best used for investigation purposes. Since previous wipe samples have indicated the presence of PCBs in the former vocational school, quantitative sampling of porous concrete and/or painted surfaces is necessary.

### **Risk Characterization**

Page 17 States that "Acceptable risk shall be deemed as total carcinogenic risk less than  $1E-5$  and total non-cancer risk (hazard index) less than 1.0." Please delete this statement. This is a risk management decision to be made following completion and review of the risk assessment (i.e., critical exposure pathway evaluation may drive remediation at a lower risk level).

The depth to groundwater and other factors used in modeling (J&E) and assumptions made about deleting compounds (e.g., detected in one media and not in another), also need to be discussed in uncertainty section.

## **APPENDIX A**

### **STANDARD OPERATING PROCEDURES**

It is typical for SOPs to be dated with the most current revision date to ensure the most current version is being used. As an example, refer to the Alpha Analytical SOPs.

### **GROUNDWATER SAMPLE COLLECTION**

Page 97 of 683. The SOPs should be site specific.

Without a specific plan for sampling in the former vocational school, the procedures are not specific and will need further review for approval.

## Appendix B Laboratory Standard Operating Procedures

Note that review of lab analytical procedures for PCBs have not been completed as this QAPP will require updating once the actual sampling protocol is determined.



## **WRITTEN PROPOSAL/SAMPLING AND ANALYSIS PLAN Former United Shoe Machinery Division North Parcel, dated April 27, 2017**

### **Section 1.1 Statement of Specific Problem**

The following statement is not correct and should be deleted. Massachusetts has been delegated the authority to implement the RCRA Corrective Action Program for this and all sites subject to RCRA Corrective Action in Massachusetts.

“Massachusetts has not been given RCRA authorization for this Site, therefore EPA is acting as the agency in charge for the RCRA program.”

In the second to last sentence in the first paragraph to this section, it states the following:

“Despite that the Site has undergone significant site assessment and remediation under the Massachusetts Contingency Plan (MCP), the Site is not listed as Remedy Construction in the RCRA 2020 database.”

There is no “Remedy Construction” code and there is no “2020 database.” The codes used in the RCRAInfo data base (<https://rcrainfo.epa.gov/rcrainfoweb>) are “remedy selection” (CA400) and “construction complete” (CA550). Please delete this sentence or revise as appropriate.

### **Section 1.3 Project Organization**

Is it FSL’s Project Coordinator or Cumming’s Properties Project Coordinator? The Project Coordinator is not listed in any of the document’s organizational flow charts but should be.

#### **Section 4.1.1.2.1 Drilling, Soil Sampling, and Logging**

It is suggested that the length of the soil core be quickly screened with a PID to help select soil samples with potential contamination for further screening.

#### **4.1.1.3 Groundwater Sampling**

This section states that “Evaluation of the groundwater conditions will be done only after the completion of the second sampling event.” Please note that at least a cursory review of all newly collected data should occur to evaluate the potential for imminent and substantial endangerment.

##### **4.1.1.3.1 Water Level Measurements**

This should include a check for non-aqueous phase liquids.

##### **4.1.1.3.2 Purging and Sample Collection**

A reference to the SOPs should be included here.

#### **4.1.3 Indoor Air Sampling**

The schedule described in the first paragraph on page 12 does not agree with the schedule in Section 12. Please revise this section as appropriate. Late winter/early spring is not the most conservative time to sample; as set out in the schedule, one event should be conducted in the winter.

#### **4.2 UST Investigation, page 15**

In the first paragraph on page 15, it states that "USTs T8, T9, and T10 were closed in place in November 1996 and the closure was documented in the Class A-1 RAO Statement under RTN 3-14836." The Response Action Outcome (RAO) Statement Former Fuel Oil Underground Storage Tanks, Building 900, Cummings Center, Beverly, Massachusetts, RTN 3-14836, dated Oct. 30, 1997, was reviewed. Although on page 3 it states that the tanks were closed in place in November 1996 (below), the RAO Statement does not provide closure documentation.

"The three USTs which were closed and are the subject of this RTN are designated T8, T9 and T10. According to the H&A reports they were: T8 - 20,000-gal # 6 fuel, T9 - 15,000-gal # 6 fuel, and T10 - 15,000-gal # 6 fuel. An additional tank, T12 - 500-gal. # 2 fuel, was removed from the ground in May 1988. T8, T9 and T10 were closed in place in November 1996."

Please provide a correct reference to the documentation for closure of tanks T8-T10.

Please refer to Attachment B for recently discovered information regarding tanks T17 and T19. Considering this information regarding removal of these tanks, reconsider the use of GPR and provide a plan for groundwater monitoring to further evaluate groundwater contamination.

#### **4.2.3 Phase III: Soil and/or Groundwater Sampling and Analysis**

GPS should be used to document the locations of test pits, soil samples and monitoring wells.

#### **4.3.2.2 Purging and Sample Collection**

VOCs should be added to the list of parameters.

#### **4.4.1 Historic Background**

Regarding the last paragraph in this section, note that NAPL recovery was conducted in the chip grind shed area. Please revise this statement accordingly.

#### **4.4.2 Groundwater Sampling**



Regarding the well correlations, some consideration of the potential plume migration (if a plume exists) from the time of initial installation of the wells to the current date should be given to placement of well and well screen intervals. It should be discussed here as well.

#### **4.4.2.2 Purging and Sample Collection**

All wells where groundwater sampling is to take place should be analyzed for VOCs, PCBs and VPH/EPH.

#### **4.5 PCB Evaluation in the Former North Shore Community College Space**

The last full sentence on page 22 should be verified for accuracy. Data from the Phase II indicates that three out of ten wipe samples had detectable concentrations of PCBs in the ppm/wipe range. Copies of the analytical results are difficult to read due to poor reproduction but it is not clear that any of the wipe samples are from the floor. Actual concrete samples should have been collected for site evaluation (of porous and painted media) to quantify the results.

The attempt to locate additional information at the City of Beverly archives and other locations to better understand the space occupied by the former school should have been completed prior to submittal of this report.

In email dated June 12, 2017, it was stated that "Despite extensive efforts, including internal and public records searches, as well as direct inquiries through Stanley Black & Decker (the previous owner), we were not able to locate any further details relative to the precise location of the equipment in the former North Shore Regional Vocational School." Please provide a detailed lists of the search efforts for this information.

It's not clear that a "precise" location is needed. It was reported that the machines were located in the machine shop and are shown on figure 15 (Phase II Investigation), although EPA has yet to locate a copy of this figure.

If no additional information can be found regarding the location of the machine shop in this area, indoor air sampling for PCBs may be an appropriate and acceptable substitute to obtain the necessary data to evaluate this area. This will also help to alleviate disruption to current occupants.

#### **4.6.1 Evaluation During the Phase II Investigation**

This data should be included in a summary table and a reference included here.

#### **4.6.3 EPA Review of Screening Level Ecological Risk Assessment**

On page 28 it states the following:

“In accordance with EPA’s directive to prioritize human health assessment at the Site, Cummings Properties, LLC will meet with EPA to prepare a detailed scope of work for the SLERA.”

When we started communications about the site in 2008, Cummings initiated ecological sampling prior to EPA review of any SAP/QAPP and prior to sampling to evaluate human health risks. EPA clarified that evaluating the human health risk was a priority over ecological risk assessment. EPA reviewed the SLERA and issued comments on May 4, 2012, via email on the same date. Further the AOC section IX.17.c.(1)(e) states the following:

“Ecological assessment sampling and analysis in the Upper and Lower Shoe Ponds and off-site, if necessary, which may include a response to EPA comments dated May 4, 2012, via email on the same date, and titled Review of the Screening Level Ecological Risk Assessment (SLERA), North Parcel Former United Shoe Machinery (USM) Division Site, Beverly, MA, dated January 24, 2012 (refer to Appendix M).”

It is highly recommended that a direct response to each of the comments be provided prior to a meeting (which should have already been included in the work plan). If there are specific needs for clarification, they should be included in the response and following submittal, a meeting can be scheduled as appropriate to address any questions and outstanding issues.

## **5.0 GENERALLY APPLICABLE PROCEDURES AND PROTOCOLS**

This section mentions the QAPP but it should be more specific (i.e., include the date) since there are multiple revisions.

### **5.1.2 Chemical Analyses, page 29**

The first bullet to this section should specify SIM mode.

The last bullet to this section regarding soil analyses should include VOC.

### **5.2.1 Field Equipment**

Tape and bubble wrap should be added to the list.

### **5.7.5 Packaging and Shipment, page 36**

Number 11 states that the lab will be called for a courier to pick up the samples. In the QAPP Form K, # 3 on page 32, states that the samples will be delivered to the lab. Please verify and for consistency, modify this or the other text as appropriate.

## **6.1 Equipment Blanks**

Equipment blanks should be collected at a rate of one per piece of sampling equipment decontaminated in the field.



This section states the following:

“Equipment blanks will be collected for groundwater samples at a rate of 5 percent to measure precision which is a measure of the adequacy of the decontamination process, and the sample preparation and measurement process when decontaminated sampling equipment is used to collect samples.”

It's not clear what the second part of this sentence means. Please clarify or delete it.

### **6.3 Field Duplicates**

In the first sentence “of the same property” should read “of the same sample.”

At least 10 % of samples per event should be field duplicates. At least one duplicate should be collected for each sample matrix, but their collection can be stretched out over more than one day (e.g., if it takes more than one day to reach 10 samples). Every group of analytes for which a standard sample is analyzed will also be tested for in one or more duplicate samples. Duplicate samples should be collected from areas of known or suspected contamination. Since the objective is to assess variability due to sampling technique and possible sample heterogeneity, source variability is a good reason to collect co-located samples, not to avoid their collection.

For PCBs, Field duplicates should be collected at a minimum frequency of 1 per 20 samples or 1 per non-related porous matrix, whichever is greater.

### **8.1 Risk Assessment**

The following statement on page 38 should be deleted. “Acceptable risk shall be deemed as total carcinogenic risk less than 1E-5 and total noncancer risk (hazard index) less than 1.0.” This is a risk management decision and will need to be made following completion and review of the risk assessment.

### **8.2 Environmental Indicators Analysis**

This task should be added to the schedule. The environmental indicators should be evaluated (checklist documentation completed) after the first round of sampling and reviewed again after the second round.

### **Section 12 Schedule**

Indoor air sampling needs to be listed in the schedule.

The second bullet under Vapor Intrusion Assessment states that groundwater sample collection will be conducted in June or Sept depending upon which season has a higher water table. How will this be determined? EPA is not aware of any existing seasonal groundwater elevation data for this site.

Submittal of supplemental work plan for further assessment (if needed) should happen as early in September as possible.

### **Ecological Assessment of Upper and Lower Shoe Ponds**

Submittal of supplemental work plan for assessment should be complete no later than July/Aug.

Ecological sampling should be completed this calendar year.

Sample collection should be completed by winter 2018.

Submittal of the RFI and CMS should be completed no later than 90 days following the last sampling in winter 2018. Add the CMS to this schedule.



**ATTACHMENT B**

**ADDITIONAL UST INFORMATION (2 pages)**

SCANNED

**Partial Response Action Outcome Statement and Modification  
Former United Shoe Machinery  
181 Elliot Street  
Beverly, MA  
DEP RTN # 3-000610**

October 28, 1997

*Prepared for:*

**BEVERLY COMMERCE PARK, INC.  
200 West Cummings Park  
Woburn, MA 01801**

*Prepared by:*

**McCULLEY, FRICK & GILMAN, INC.  
444 Washington Street, Suite 504  
Woburn, Massachusetts 01801  
(781) 937-0500  
FAX (781) 937-0578**



ATTACHMENT FOR  
RESPONSE ACTION OUTCOME (RAO) STATEMENT & DOWNGRADE PROPERTY  
STATUS TRANSMITTAL FORM, BWSC 104  
NORTH PARCEL  
UNITED SHOE MACHINERY (USM) FACILITY  
Page 3

---

soil was exposed and oil, estimated to be No. 6 fuel oil, was locally visible on the groundwater. The removed UST was intact and no holes or cracks were identified. Following its removal, the excavation was backfilled. No soil and groundwater were segregated or disposed of as a result of the tank removal.

T-15  
OK → Since completion of the Phase II report, three additional USTs, identified as T15 (5,000 gallon underground gasoline tank), T17 (5,000 gallon underground gasoline tank), and T19 (1,000 gallon underground diesel tank) have been removed. These removals were reported in the Waiver Expiration Status Report. UST T15 was removed from an area east of Building P. USTs T17 and T19, located near the north end of Buildings A and B, were owned and operated by the North Shore Regional Vocational School District (NSRVSD), a tenant on the USM site.

→ Based on subsurface conditions encountered during removal of UST T15, excavated soil was determined to be suitable for reuse and was returned to the tank grave. No soil or groundwater was disposed of as a result of this removal. Removal of USTs T17 and T19 was performed by NSRVSD contractors. During the removal of UST T17, gasoline odors and elevated photoionization detector screening measurements of groundwater were encountered. As a result, 800 gallons of groundwater from within the T17 excavation were removed with a vacuum truck. During the removal of T19, approximately 10 cubic yards of visibly contaminated soil was segregated and removed from the site. Waste materials associated with USTs T17 and T19 were manifested by NSRVSD. These records were not made available to Emhart.

REMOVAL OF OTHER CONTAMINATED MEDIA: RESPONSE ACTIONS  
ASSOCIATED WITH MACHINERY REMOVAL DURING PLANT DECOMMISSIONING  
- SECTOR 5

In 1987, Emhart sold the United Shoe Machinery Corporation. As a result of the sale, most of the USM business and residual manufacturing was moved to an off-site facility in Wilmington, Massachusetts. The Wilmington facility retained the USM name, while Emhart kept the Beverly property. During relocation of the USM operations, junked machinery was discarded in a storage container located at the northeast corner of the foundry in Sector 5. In February 1988, Northeast Environmental Services Company spilled an estimated 200 gallons of machine oil from the storage container during its transport from the site. In response to this spill, Clean Harbors, Inc., performed cleanup of the affected driveways, concrete areas, soils, and catch basins. Approximately 80 gallons of oil and water were recovered from on-site catch basins in addition to eight drums of oil mixed with absorbent materials.